

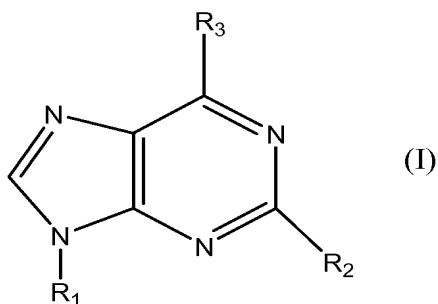
Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

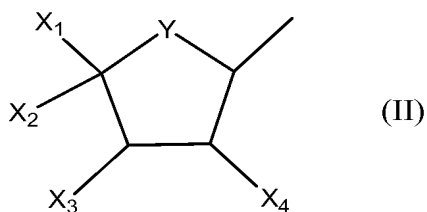
1-10 (Cancelled)

11 (Previously Presented). A method for treating an individual suffering from multiple sclerosis (MS) comprising administering to said individual an A3 adenosine receptor agonist (A3RAg) wherein said A3RAg is a compound within the scope of the general formula (I):



wherein,

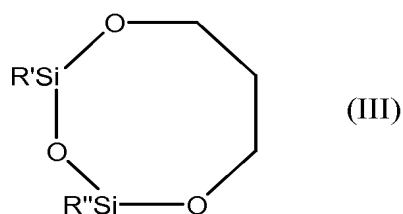
- **R₁** represents an alkyl, hydroxyalkyl, carboxyalkyl or cyanoalkyl or a group of the following general formula (II):



in which:

- **Y** represents an oxygen, sulfur or CH₂;
- **X₁** represents H, alkyl, R^aR^bNC(=O)- or HOR^c-, wherein

- R^a and R^b may be the same or different and are hydrogen, alkyl, amino, haloalkyl, aminoalkyl, BOC-aminoalkyl, or cycloalkyl or are joined together to form a heterocyclic ring containing two to five carbon atoms; and
- R^c is alkyl, amino, haloalkyl, aminoalkyl, BOC-aminoalkyl, or cycloalkyl;
- X_2 is H, hydroxyl, alkylamino, alkylamido or hydroxyalkyl;
- X_3 and X_4 represent independently hydrogen, hydroxyl, amino, amido, azido, halo, alkyl, alkoxy, carboxy, nitrilo, nitro, trifluoro, aryl, alkaryl, thio, thioester, thioether, -OCOPh, or -OC(=S)OPh or both X_3 and X_4 are oxygens connected to $>C=S$ to form a 5-membered ring, or X_2 and X_3 form the ring of formula (III):

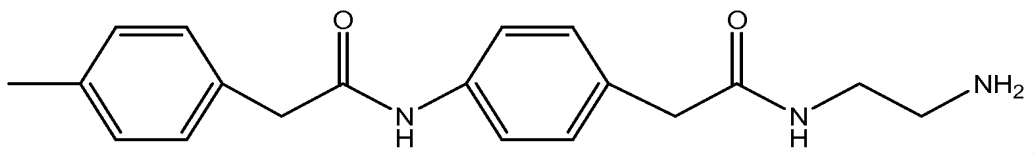


- where R' and R'' represent independently an alkyl group;
- R_2 is hydrogen, halo, alkylether, amino, hydrazido, alkylamino, alkoxy, thioalkoxy, pyridylthio, alkenyl, alkynyl, thio, or alkylthio; and
 - R_3 is a group of the formula $-NR_4R_5$, wherein

- **R₄** is a hydrogen atom or alkyl, substituted alkyl or aryl-NH-C(Z)-, with **Z** being O, S, or NR^a with **R^a** having the above meanings;

with the proviso that when **R₄** is hydrogen then

- **R₅** is an R- or S-1-phenylethyl, benzyl, phenylethyl or anilide group, unsubstituted or substituted in one or more positions with a substituent that is alkyl, amino, halo, haloalkyl, nitro, hydroxyl, acetoamido, alkoxy, or sulfonic acid or a salt thereof; benzodioxanemethyl, furfuryl, L-propylalanylaminobenzyl, β-alanylaminobenzyl, T-BOC-β-alanylaminobenzyl, phenylamino, carbamoyl, phenoxy or cycloalkyl; or **R₅** is a group of the following formula:

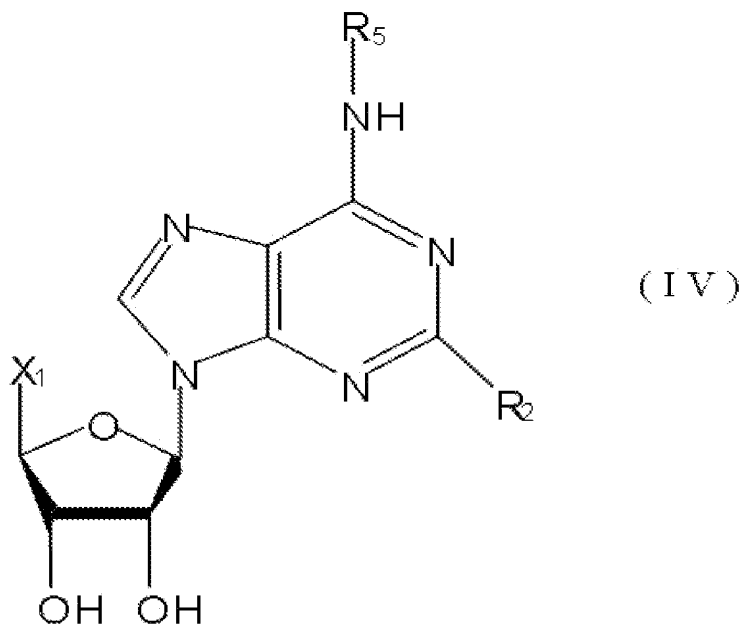


and with the further proviso that when **R₄** is an alkyl or aryl-NH-C(Z)-, then, **R₅** is heteroaryl-NR^a-C(Z)-, heteroaryl-C(Z)-, alkaryl-NR^a-C(Z)-, alkaryl-C(Z)-, aryl-NR-C(Z)- or aryl-C(Z)-, **Z** representing an oxygen, sulfur or imine; or a physiologically acceptable salt of the above compound.

12. (Currently Amended) The method of Claim 11,
wherein said A3RAgA-RA₃ is orally administered.

13 (Cancelled).

14 (Currently Amended). The method of claim 11,
 wherein said A3RagA-PA₃ is a nucleoside derivative of the
 general formula (IV):

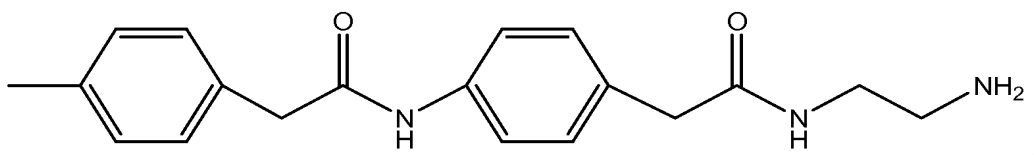


wherein,

- **X₁** represents H, alkyl, R^aR^bNC(=O)- or HOR^c-, wherein
 - **R^a** and **R^b** may be the same or different and are hydrogen, alkyl, amino, haloalkyl, aminoalkyl, BOC-aminoalkyl, or cycloalkyl or are joined together to form a heterocyclic ring containing two to five carbon atoms; and
 - **R^c** is alkyl, amino, haloalkyl, aminoalkyl, BOC-aminoalkyl, or cycloalkyl;

- **R₂** is hydrogen, halo, alkylether, amino, hydrazido, alkylamino, alkoxy, thioalkoxy, pyridylthio, alkenyl, alkynyl, thio, or alkylthio; and

- **R₅** is an R- or S-1-phenylethyl, benzyl, phenylethyl or anilide group, unsubstituted or substituted in one or more positions with a substituent that is alkyl, amino, halo, haloalkyl, nitro, hydroxyl, acetoamido, alkoxy, or sulfonic acid or a salt thereof; benzodioxanemethyl, fururyl, L-propylalanylaminobenzyl, β -alanylaminobenzyl, T-BOC- β -alanylaminobenzyl, phenylamino, carbamoyl, phenoxy or cycloalkyl; or **R₅** is a group of the following formula:



and physiologically acceptable salts of said nucleoside derivative.

15 (Previously Presented). The method of Claim 11, wherein said A3RAg is N⁶-2- (4-aminophenyl)ethyladenosine (APNEA), N⁶-(4-amino-3-iodobenzyl) adenosine- 5'-(N-methyluronamide) (AB-MECA), N⁶-(3-iodobenzyl)-adenosine-5'-N-methyluronamide (IB-MECA), or 2-chloro-N⁶-(3-iodobenzyl)-adenosine-5'-N-methyluronamide (Cl-IB-MECA).